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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,921	09/17/2003	Ashok Prabhu	NSC1P278/P05689	6486

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BEYER WEAVER & THOMAS, LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

EXAMINER

CHACKO DAVIS, DABORAH

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,921

Applicant(s)

PRABHU ET AL.

Examiner

Daborah Chacko-Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☒ Claim(s) 11-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 11-12, and 14-26, are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,873,024 (Prabhu et al., hereinafter referred to as Prabhu).

Prabhu, in the abstract, in col 3, lines 23-67, in col 4, lines 1-50, and in figures 3, 7, 8, and 9, discloses a semiconductor wafer containing an optical imaging die, wherein the wafer includes a plurality of die, each die (less than 0.7mm in thickness) includes an imaging circuitry, mounting a patterned transparent template on each die, wherein each template has patterned die cover regions (reference 22, transparent region), and recess regions (at the periphery of the template including the spacing structures), said template is mounted onto to the die such that the transparent region covers the imaging circuitry; the spacing structures (support regions) are formed on the template to form peripheral integral support regions (reference 30, and 332), and the transparent template with the spacing structures (integral support regions, reference 30, and 332) is laminated (mounted) on the die of the wafer, wherein the transparent template is mounted so as to

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form a gap of about 50 microns between the imaging circuitry and the transparent template (claims 11, 12, 15-16, 20-21). Prabhu, in col 4, lines 42-47, in col 5, lines 16-22, and in figure 11, discloses that the patterned transparent template (of the claimed thickness) is singulated, followed by encapsulating (packaging with packaging material such as clear epoxy etc.,) the die and the template using standard packaging techniques (claims 17, 19). Prabhu, in col 5, lines 10-16, discloses that the die package is a tape automate bond package (claim 18). Prabhu, in col 5, lines 8-16, discloses that the contacts (contact bumps) are electrically coupled to the leads (reference 44 of figure 8), wherein the leads are insulated from one other via polyimide encapsulant present over the die (above the imaging circuitry) (claims 22, 23, 24). Prabhu, in col 5, lines 50-67, discloses that the bond pads on the dies are electrically coupled to the substrate package (solder balls) (claims 25-26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,873,024 (Prabhu et al., hereinafter referred to as Prabhu) in view of U. S. Patent No. 5,920,142 (Onishi et al., hereinafter referred to as Onishi).

Prabhu is discussed in paragraph no. 3.

Prabhu, in col 2, lines 34-39, discloses a transparent template (lid) that includes a die cover region (transparent region) and recess region (support region).

The difference between the claims and Prabhu is that Prabhu does not disclose that the support regions formed on the lid is a patterned photo-sensitive adhesive (claim 13).

Onishi, in col 10, lines 54-64, discloses that the support regions on the lid (retainer) are formed by patterning the photosensitive resin.

Therefore, it would be obvious to a skilled artisan to modify Prabhu by employing the patterning the photosensitive material as suggested by Onishi because Onishi, in col 6, lines 52-60, discloses that the support layer employed and patterned enables the formation of a space between the cover and the functional area that is hermetically sealed.

Allowable Subject Matter

5. Claims 1-10 allowed. See Remarks, of Response C- After Final filed April 5, 2006.

Response to Arguments

6. Applicant's arguments filed May 16, 2006, have been fully considered but they are not persuasive. The 102 and 103 rejections made in the previous office action (paper no. 0412) are maintained.

A) Applicants argue that neither Prabhu nor Onishi teaches a prefabricated lid having integral support regions.

Prabhu, in col 4, lines 34-39, and in figures 7-9, discloses a transparent template (lid) wherein the spacing structures (integral support regions) are first formed on the template, after which the template is laminated on the die of the wafer, wherein the spacing structures on the template cover only the peripheral portions of the die; and thus the template is prefabricated with integral spacing structures (i.e., prior to mounting the template on the die, the support regions can be formed on the template).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd

July 12, 2006.



JOHN A. MCPHERSON
PRIMARY EXAMINER